DOCUMENT RESUME

ED 255 601 UD 024 149

AUTHOR	Calderon, Margarita
TITLE	Application of Innovation Configurations to a Trainer of Trainers Program. Bilingual Education Paper Series Vol. 6 No. 3.
INSTITUTION	California State Univ., Los Angeles. Evaluation, Dissemination and Assessment Center.
SPONS AGENCY	Department of Education, Washington, DC.
PUB DATE	Oct 82
NOTE	55p.; Paper presented at the Claremont Graduate School Seminar "Implementing and Evaluating Organization Change" (Claremont, CA, June 1981).
PUB TYPE	Reports - General (140) -- Speeches/Conference Papers (150) -- Information Analyses (070)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Bilingual Education; Case Studies; *Educational Innovation; Elementary Secondary Education; *Measurement Techniques; Models; *Staff Development; Teacher Education; Teacher Improvement; *Transfer of Training
IDENTIFIERS	Coaching; *Innovation Configurations; *Training Effectiveness

ABSTRACT

The Innovation Configurations approach is a way of measuring what aspects of a staff development training program are actually being put into practice. Unlike other methods of measuring implementation (and particularly those used in the evaluation of bilingual program implementation), it does not focus on outcomes but instead answers the questions: (1) "What is the innovation?" and (2) "How is it being used?" The procedure involves five basic steps: (1) reading descriptive materials, interviewing the developer or program facilitator, and developing a tentative list of components and variations; (2) interviewing and observing users to get a concrete image of how they implement and interweave the components; (3) in new discussions with the developer, clarifying the most important components, verifying variations, and resolving discrepancies between developer and user viewpoints; (4) collecting data through interviews, observations, and/or self-administered checklists; and (5) analyzing data. Following these descriptions of the Innovation Configurations approach, the document presents a case study of its application to an ongoing bilingual education trainer of trainers program in San Diego, in order to determine what aspects of the training have actually been implemented by trainees before a "coaching" treatment is applied. (The school district profiles thus derived are to be used as baseline data after the coaching component has been completed.) The training program is described, the development of a checklist is outlined (two drafts are appended), and results of interviews with and observations of trainees are presented. And finally, unresolved problems with the approach are discussed and conclusions and recommendations are presented. (CMG)

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Bilingual Education
PAPER SERIES

Evaluation, Dissemination
and Assessment Center
California State University, Los Angeles
5151 State University Drive
Los Angeles, CA. 90032

UD024 149

ISSN 0161-3707

Vol. 6 No. 3
October 1982

APPLICATION OF INNOVATION CONFIGURATIONS TO A TRAINER OF TRAINERS PROGRAM

Margarita Calderón
Bilingual Education
Service Center
San Diego, California

The subject of this publication was supported in whole or in part by the United States Education Department. The opinions expressed herein do not necessarily reflect the position or policy of the United States Education Department; no official endorsement by the United States Education Department should be inferred.

This publication was printed with funds provided by the Bilingual Education Act, Title VII of the Elementary and Secondary Education Act of 1965, as amended by Public Law 93.380.

APPLICATION OF INNOVATION CONFIGURATIONS TO A TRAINER OF TRAINERS PROGRAM*

Margarita Calderón

INTRODUCTION

The Rand report on federally supported programs for educational change points out that if schools are to install improved plans, and even survive, the 1980s must be the decade of staff development (Milbrey and McLaughlin, 1978). Yet, most staff development programs are characterized as irrelevant, ineffective, and a waste of time and money (Wood and Thompson, 1980).

A current problem with staff development programs is understanding how training is transferred into actual classroom practice. This lack of understanding is compounded by two further problems: First, it is often erroneously assumed that attainment of new information or development of a skill is a sufficient condition for ensuring transfer of training. Second, training events are rarely assessed, during their implementation-adaptation stage, for measuring training effectiveness and identifying potential problems or areas needing improvement. In order to establish effective staff development programs that will address the demands of the 1980s, the elements of good training and the means for measuring transfer of training must first be identified.

Current research in the field of staff development seems to point to "coaching" (Joyce and Showers, 1982) as a means to ensure the transfer of skills into active teaching practices. Concomitantly, the concept of "Innova-

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*This paper was presented at a Claremont Graduate School Seminar, "Implementing and Evaluating Organization Change," June 1981.

tion Configurations" (Hall and Loucks, 1981) as a means for measuring implementation also appears to be a promising approach for evaluating staff development practices.

This preliminary study takes these two practices into consideration while applying Innovation Configurations to an ongoing training program and determining what the innovation looks like (what aspects of the training have been actually implemented) before a coaching treatment is applied. The school district profile derived from the Innovation Configurations approach will be used as baseline data for comparison after the coaching component has been completed.

IMPLEMENTATION OF CURRICULAR AND TRAINING INNOVATIONS

From the late 1950s to the early 1970s a number of innovations were introduced, among them differentiated staffing, team teaching, the new science and mathematics, alternative approaches to social studies, and the open classroom. However, it later became apparent that these implementations varied widely and even the well-implemented instances had, in time, eroded (Goodlad and Klein, 1970; Milbrey and McLaughlin, 1978; Weiss, 1978). Informal observations, surveys, and formal evaluations of curricula have produced findings generally congruent with the above assertions. That is, there is great variability within sites with respect to the implementation of curricula; even well-implemented curricular and organization changes tend to rapidly disappear.

There seem to be parallels in the curriculum-implementation and the training literature. In both, the literature is uneven; relatively few studies enable one to infer the relationship between strategies employed and degree of use, especially over the long term. Fullan and Pomfret (1977) identified dimensions of implementation--understanding the rationale of a curriculum, use

of appropriate materials and instructional processes, appropriate changes between role relationships of teachers and students, and appropriate evaluation--and suggested that the degree to which these dimensions are used varies considerably. They observed, in fact, that utilization of instructional materials is more likely to occur than is a change in instructional process, pupil/teacher role relationships, or evaluation.

Studies by Charters and Pellegrin (1973), Crowther (1972), Downey (1975), Gross et al. (1971), Lukas and Wohlleb (1973), Naumann-Etienne (1974), and Fullan and Pomfret (1977) suggest that when an innovation's characteristics and rationale are not explicit, user confusion, frustration, and a low degree of implementation are more likely to occur. This is similar to the Joyce and Showers (1981) contention that understanding a teaching approach contributes to the development of skill and ultimately to its use.

Both curriculum and training literature seem to hold that a thorough understanding of an innovation increases the likelihood of learning and commitment to its use. For instance, Downey (1975) reported a low degree of implementation in a well conceived and rationalized social studies curriculum in Alberta, Canada. The in-service program consisted of theory-only in short workshops where the rationale was discussed and materials distributed.

On the other hand, in the implementation of the planned variation of Head Start (Lukas and Wohlleb, 1973), fairly high degrees of implementation were evident in many sites where the developers worked directly to explain the rationale, provide materials, demonstrate, and provide coaching and moral support. Additional literature, such as the National Science Foundation (Weiss, 1978) studies, also emphasizes the provision of materials, states the amount of relearning necessary if new teaching methods are to be acquired and utilized, and affirms the need for consultants to provide coaching during the implementation period.

Ensuring Transfer of Training

In 1977 Bruce Joyce and Beverly Showers gathered 200 studies on micro-teaching, mini-courses, simulation, curriculum implementation, interaction analysis, and others, and developed a report on the training outcomes. Most of the training literature consisted of combinations of training elements directed toward fine-tuning of styles or mastery of new approaches. These elements of training were identified as:

1. Presentation of theory and research or description of skill or strategy;
2. Modeling or demonstration of skills or teaching models;
3. Practice in simulated classroom settings;
4. Structured or open-ended feedback (provision of information about performance); and
5. Coaching for application (hands-on, in-classroom assistance with the transfer of skills and strategies to the classroom).

Joyce and Showers (1980)

All these elements, in various ways, helped teachers acquire the targeted skills. However, after careful analysis, Joyce and Showers discovered that in order to ensure considerable impact on children's education, all the elements must be included in a training program.

Although few of the studies Joyce and Showers analyzed focused on coaching to application, this level of training seemed to result in greater transfer at the classroom level. They placed these studies in a **horizontal transfer** category if there was evidence of use of the trained skills/behaviors in classroom instruction or during student teaching. Studies were placed in the **vertical transfer** category if long-term follow-up indicated that trained behaviors and strategies appeared to be integrated into a complex environment and transformed for appropriate use as needed.

There were six studies that used **theory/modeling/practice/feedback** treatments and all achieved the horizontal transfer that was targeted as a training outcome. The two studies that employed **theory/modeling/practice** treatments also achieved horizontal transfer, but only five of the nine using **theory/practice/feedback** treatments achieved it, including several that had ascertained that the skills had been developed.

Joyce and Showers (1981) found so few studies of vertical transfer aimed directly at training that speculation on proportion of trainees comfortably integrating the new model into their existing repertoire is difficult. From the few studies that they have, however, a large proportion of trainees will probably achieve at least some vertical transfer and begin to integrate the new skills into their repertoire, provided that coaching is added to the other training components.

Thus, the implications from Joyce and Showers' (1981) analysis are that study of theory, observation of demonstrations, practice, and feedback (taken together and provided they are of high quality) will develop skill in teachers. However, development of skill by itself does not ensure transfer of that skill into their active teaching repertoires. Coaching, then, becomes the major means for attainment of transfer.

The elements of learning involved in the transfer process have been identified by Joyce and Showers (1982) as follows:

1. Forecasting the Transfer Process Throughout the Training Cycle

   Even very experienced teachers need to understand that after the training session a second stage of learning will come when they are trying the model for the first few times. This understanding needs to be emphasized throughout the training.

2. Skill Development

   A teaching model of average difficulty requires as much as 20 to 30 hours of theory, at least 15 to 20 observations of demonstrations, and

practice with peers and small groups of students at least 10 to 15 times before a high level of skill begins to be produced.

3. Development of Executive Control

This essentially involves understanding an approach to teaching, why it works, its use, its major elements, how to adapt it to varying kinds of content and students, and development of the set of principles for thinking about, modulating, and transforming the approach in the course of its use.

Forecasting transfer, skills development, and that of executive control sets the stage for coaching and increases the odds of achieving successful transfer.

The Process of Coaching

The function of coaching is to assist the acquisition of new repertoire elements. Coaching teams need to be developed during the training process. These teams will then continue to develop and enhance a coaching environment at the school district, observing one another's teaching and providing helpful information.

The process of coaching includes five major functions:

1. The Provision of Companionship

This provides interchange with another person during a difficult process. The relationship provides opportunities for mutual reflection, the checking of perceptions, the sharing of frustrations and successes, informal thinking through of mutual problems, and reassurance that problems are normal.

2. The Provision of Technical Feedback

During training the team members provide feedback to one another, pointing out omissions, examining how materials are arranged, etc. Technical feedback helps ensure that growth continues through practice in the classroom. It is also beneficial to the person giving it. By watching someone else, the person can reflect on his/her own processes and acquire new ideas.

3. Analysis of the Application

During the transfer period teachers learn when and how to use a new model and what should be achieved by their use. Coaching teams need to spend time examining curriculum materials and plans to determine what models best fit their needs.

4. Adaptation to the Students

Successful teaching requires positive student response. A model that is new to a group of students may cause trouble. The coach can help to "read" the students' responses and help adapt the model to their needs. This is particularly important in the initial stages of practice when the teacher is concentrating on the process or content of the model and cannot keep watch on all students.

5. Facilitation

When practicing new skills, teachers are less competent than with existing skills. Students sense this uncertainty and may react uncomfortably. The expression "I tried that method and it didn't work" refers as much to the dismay over those early trials as it does to the actual success or failure of the method itself. One of the major jobs of the coaching team is to help its members feel good about themselves during the early trials.

Summary

The literature on skills training, transfer of training, and implementation strategies suggests ways to attack the problem of transfer. First, the literature on curriculum implementation suggests that without proper in-service programs, even massive efforts are unlikely to accomplish change. Second, current training procedures exist through which teachers can acquire knowledge and skill; however, they are unlikely to transfer this learning to classroom practice. Finally, the coaching technique appears to solve the training transfer problem.

INNOVATION CONFIGURATIONS

The concept of Innovation Configurations emerged from research on the change process conducted at the Texas Research and Development Center for Teacher Education. This model emphasizes an understanding of the change process as experienced by individuals who are implementing innovations within organizational contexts. More specifically, Innovation Configurations represent the operational patterns of the innovations that result from implementation by different individuals in different contexts.

Research conducted on innovations (Hall, 1977; Rutherford, 1977; Loucks, 1978) indicates that individuals use parts of an innovation differently. Furthermore, in many cases an innovation might not be implemented at all (Hall, 1981); this leads to the phenomenon that Charters and Jones (1973) have referred to as the evaluation of "non-events." Frequently researchers and evaluators assume the existence of distinct treatment and comparison groups when in fact all users were not in one group and nonusers in the other (Heck et al., 1981). Although this appears to be a widespread phenomenon, it is particularly evident in the evaluation of bilingual program implementation (Burry, 1980; NACBE, 1981). Evaluators and policy makers seem to be too outcome oriented, focusing on pre- and post-measures without analyzing what is actually implemented and how this affects the outcomes.

Current Efforts in Measuring Implementation

The issue of how to measure bilingual program implementation has been approached through several orientations in recent years as summarized in Figure 1. These current efforts for measuring bilingual program implementation reflect a need to focus on identification and description of the actual treatment that each program user delivers. The fact that bilingual teachers have trained, maintained materials in the classroom, can espouse the general philosophy of the innovation, and have adopted it from the point of view of perceived attributes, does not tell what they are doing. In fact, what might be observed in one classroom could be inconsistent with what was observed in another. For example, a new approach to oral language development might be given 20 minutes of continuous student-generated verbal interaction in one classroom by a well-prepared teacher. In another, this activity might be relegated to a teacher aide who must try to keep the noise level down while the advanced reading

Figure 1

TRENDS IN MEASURING BILINGUAL PROGRAMS

Orientation	Description	Limitations
Perceived Attributes	Prospective adopters describe how they perceive the innovation.	Does not provide information about the innovation itself and what use actually entails.
Philosophy	Innovation is described in terms of the fundamental beliefs of the innovation developers.	Apt to be no correlation between espoused philosophy and actual practice.
Implementation Requirements	Innovation is described in terms of steps, procedures, and resources needed in order for it to be adopted.	The resources may be there, but presence does not describe actual use.
Goals and Outcomes	Innovation is described through the overall goals, specific objectives, and specification of outcomes.	This often leads to unrealistic goals. Also, it does not explain how the innovation was used to achieve the outcomes associated with it.

groups are in session with the teacher. Both sets of teachers might be doing oral language development. Yet, configurations of the oral language development being conducted were extremely different.

Innovation Configurations

Innovation Configurations answer the questions, "What is the innovation?" and "How is it being used?" The concept of Innovation Configurations and the

use of Innovation Configuration Checklists allow the emphasis to be placed upon the concrete and more tangible operational forms of the innovation, promoting reliable information about the innovation's use (Hall and Loucks, 1981). An example of the use of Innovation Configurations might be to characterize a new approach to reading in terms of the materials teachers will use, their teaching strategies, the management tools they will handle, the activities students might be engaged in, and the support or facilities the school district will provide.

Through the Innovation Configurations' description of the reading innovation, teachers can see what is expected of them and decide on the adoption and adaptation of the innovations. For evaluation, Innovation Configurations can answer questions such as whether the innovation has been fully implemented, how it looks one or more years after adoption, and how it relates to student or other outcomes. For staff development, Innovation Configurations can provide a record of what teachers actually do, enabling staff development designers to modify, complement, or change their current practices. For research, Innovation Configurations can provide information on constancy of treatment across individuals in the treatment group and for assessing the extent to which the treatment is truly absent from the control group (Heck **et al.**, 1981).

Procedure for Developing Innovation Configuration Checklists

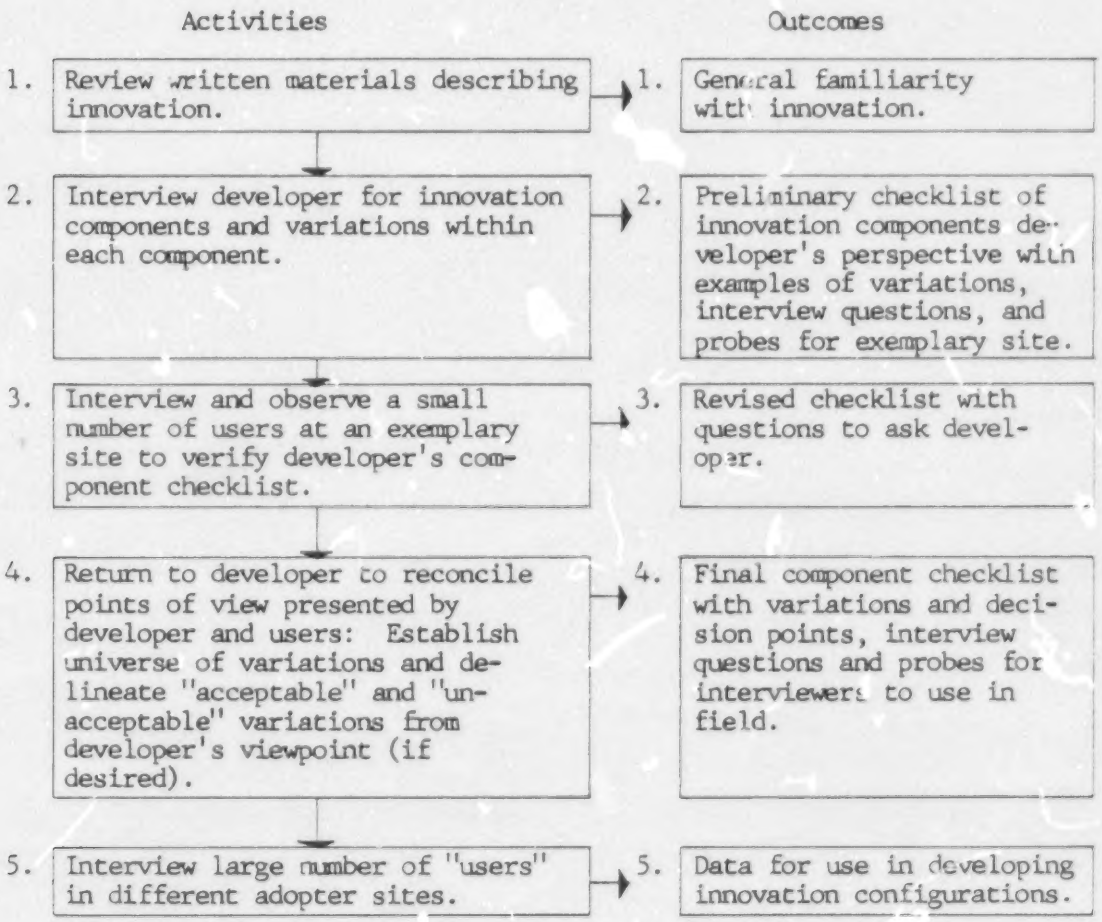
The procedure begins with consideration and clarification of how the collected information will be used. If the question is what adopters do when they use the innovation, the need is for descriptive information about the behaviors of individuals as they implement an innovation. This information will be particularly useful for bilingual teacher trainers when explaining the program to new trainees. If the question is about the extent to which innovation adopters

are using an innovation in a particular way, the need is for some norm or standard against which user performance is to be measured. In this case, the information is valuable for comparing the actual use of an innovation with the developer's intended use.

The procedure for collecting information consists of five steps (see Figure 2).

Figure 2

PROCEDURE FOR IDENTIFYING INNOVATION COMPONENTS, VARIATIONS, AND CONFIGURATIONS


Activities
Outcomes
1. Review written materials describing innovation.
1. General familiarity with innovation.
2. Interview developer for innovation components and variations within each component.
2. Preliminary checklist of innovation components developer's perspective with examples of variations, interview questions, and probes for exemplary site.
3. Interview and observe a small number of users at an exemplary site to verify developer's component checklist.
3. Revised checklist with questions to ask developer.
4. Return to developer to reconcile points of view presented by developer and users: Establish universe of variations and delineate "acceptable" and "unacceptable" variations from developer's viewpoint (if desired).
4. Final component checklist with variations and decision points, interview questions and probes for interviewers to use in field.
5. Interview large number of "users" in different adopter sites.
5. Data for use in developing innovation configurations.

(Heck et al., 1981, p. 27)

1. Identifying Innovation Components

   The identification of components begins by reading descriptive materials about the program. Next, the developer or program facilitator is interviewed, and a tentative list of components and some of its variations are developed.

2. Verification of Components and Variations

   Users are observed and interviewed to get a concrete image of how they implement and interweave the components. They are asked for components they believe essential.

3. Refinement of Checklist

   The checklist is refined through new discussions with the developer. This helps clarify the most important components, verify variations, resolve discrepancies between developer and user viewpoints, and standardize language and format.

4. Data Collection

   The data base for use in the analysis is generated from interviews, observations, and/or self-administered checklists. Interviews allow individuals to define an innovation without the restriction of component categories imposed from the outside.

   Observations are valuable when an innovation involves multiple user roles or has components that call for interactive processes. They are also useful for validating the information collected by the interview or checklists.

5. Data Analysis

   The recommended type of analysis for the checklist is the simple computation of component frequencies. Profiles are to be made from raw tallies. Configurations can also be used to relate implementation patterns to outcomes through further analysis.

An example where outcomes were related to Innovation Configurations was in an experimental bilingual program in Texas (Butler, 1980). Data was collected and used primarily for evaluation purposes, both within the district and for compliance with the federal government. The purpose of the program was to implement three instructional models. An Innovation Configurations Checklist was developed to classify users as belonging to each of the models and its variations. An analysis of covariance was performed producing relatively few

results that could be educationally significant. However, it revealed gains of the project groups that consistently outweighed those of the control group. In relation to the three instructional models, it was possible to relocate funds to fully implement the two models that were favored by the users and were producing better results.

A CASE STUDY: MTTI

An Innovation Configuration checklist, interviews, and observations were used to gather information about program implementation of the training components developed through the Riverside/San Bernardino Multidistrict Teacher Trainers Institute (MTTI). Innovation Configurations based on the data gathered from these tools were used for both continuing staff development and as part of a larger study that will determine the impact of a transfer of training components.

The Innovation

In February 1980, a [illegible]-year trainer of trainers program was initiated by the Bilingual Education Service Center in San Diego for school districts in Riverside and San Bernardino counties. The purpose of this ongoing MTTI project was to train a cadre of bilingual personnel from each of the nine school districts who could in turn train other personnel in their school districts.

The training had two foci: content and process. The scope of the content was theory and teaching models for first and second language acquisition. The focus of the process strand was: (1) operationalizing theories and research in first and second language acquisition, (2) designing training materials and workshops, (3) becoming effective trainers, and (4) implementing innovation at each trainee's school district.

MTTI began with 17 trainees the first year, then 11 others from the same districts were added the second year. Although much of the content was repeated that second year for the new group, there were gaps that had to be filled by the first group of trainees on their own time in their own districts.

The evaluation paradigm for MTTI comprised three phases: Phase One--evaluation of the training design, its organization, and its consultants; Phase Two--evaluation of the trainees as trainers at their school districts; and Phase Three--evaluation of the transfer of training as demonstrated at the classroom level and its impact on student achievement.

Data for Phase One was collected and analyzed during 1980-1981, yielding most positive results. Longitudinal data is currently being collected for student outcomes for Phase Three. Thus, the greatest attention was turned to Phase Two, evaluating trainees as they train staff at their districts, since this phase would influence the results of Phase Three. The questions to be answered were, how the trainer of trainers model functions in the districts, how many trainees are training others in their districts, what they are training on, who they are training, and how often.

Each trainee was instructed to keep a file with time series data, schedules and agendas of their training events, evaluation forms, and any critical incidence data that seemed appropriate.

The Sample

Eight MTTI trainees from one particular school district were selected for this part of the study. Selection criteria were based on attendance at MTTI sessions, willingness to participate in the study, variety of trainee positions and responsibilities within the district, representation of both elementary and

secondary levels, and representative of a typical district in terms of bilingual program support and commitment.

During their coaching phase, these eight trainees received high quality training through theory, modeling, practice, feedback, and coaching by Joyce and Showers on five models of teaching: Concept Attainment, Synectics, Inquiry Training, Role Playing, and Assertive Training (Joyce and Weil, 1980). In order to measure the transfer of skill from the training into the actual classroom, some background factors needed to be identified about these teachers. Background factors such as level of skill and level of use in relation to the content in L_1 and L_2 theory and practice will begin to render a profile of each trainee. The trainee profile will eventually also pinpoint the trainees' level of concern for the innovation and organizational and personal barriers to innovation implementation.

The integration of the content on L_1 and L_2 acquisition with the content of the five models of teaching will become the focus of the vertical transfer study. The significance of this integration is that it will give teachers a means of developing higher levels of linguistic and cognitive skills for language minority students.

Development of the Checklist

The steps that led to the development of the final checklist were: (1) interview (audio-taped), (2) questionnaire (written), (3) checklist (written), (4) second questionnaire (written), and (5) final checklist (written).

The first interview consisted of general questions such as: What is MTTI? What do you expect to accomplish through MTTI for your district? What do you expect to accomplish for yourself? What difficulties did you have with MTTI? What aspects of MTTI are you implementing? These questions were asked orally

first, audio-taped, then a copy of the same questions was left with each trainee to answer and return the same day.

The questions about "difficulties" and expectancies were included to help them understand what was important and what was actually taking place. Sharin and Hertz-Lazarowitz (1981) prepared similar interview questions to help their teachers understand what had happened to them during their participation in a teacher training project aimed at changing their professional behavior and outlook. Thus, an understanding of the overall picture seemed like an appropriate point of departure. Additionally, it was hoped that these questions would also help to point out limitations or outside factors that might restrict implementation.

These questions generated eight components that became the first draft of the checklist:

1. Theory/research
2. Teaching methods/techniques (only four identified)
3. Materials development
4. Training levels (depth of training events)
5. Diagnosis of their training events
6. Recordkeeping devices
7. In-service groups (audiences)
8. Scheduling (frequency of training events)

Appendix 1 contains the first draft of the checklist with the decision points to determine "desired," "acceptable," and "unacceptable" variations. The first draft was presented in written form and trainees were asked for comments or questions upon completing the form. It immediately became evident that there were many variations within each component that seemed basic to the trainees.

A second questionnaire was then developed to obtain more specific information on the components. The questions were: What are the main components of MTTI? What else did you use from MTTI that you did not mention in the interview or questionnaire? What are the highlights of MTTI? What are the limitations of MTTI? Trainees were also asked to rate the level of support they were receiving from principals, central administrators, school staff, and MTTI peers. From this information the final checklist was developed (see Appendix 2).

Analysis of the Interviews

The primary goal of the interviews was to answer the question: How do teachers understand the MTTI process, and what is happening to them at their district? The oral interviews were subjected to a content analysis directed by the principles of "Grounded Theory" (Glaser and Strauss, 1967). By this method 39 themes or categories were generated from the interviews and were collapsed into six dimensions. These same six dimensions emerged after categorizing the written narratives from their written questionnaires.

The composite of the interviews resulted as follows:

Evaluation of MTTI Difficulties (Scale 1: 8 categories)

The categories included in this dimension expressed time as the major difficulty. Five people were concerned with being away from district and having insufficient time to read everything to complete their tasks. Information overload, also related to time, was the concern for two people. Only one instance was recorded for each of the following: fear of presenting, not being bilingual, personal growth pains, lack of communication, undemocratic decision-making process, and lack of structure for developing the training manual.

Coping with MTTI Difficulties (Scale 2: 8 categories)

The most common way of coping was working with peers. Five people maintained that their way of coping was through committees with peers, total group efforts, peer feedback, coping with change jointly, business meetings for sharing, and communicating. These replies also referred to the time factor. Other solutions to time problems mentioned were getting an aide and working at home. Most other answers referred to a difficulty they had had with MTTI but had resolved, such as "The W.O.W. workshop gave confidence in presenting; they made me forget I wasn't bilingual." "Our business meetings give us a chance to communicate, make joint decisions." "Our manual got done."

Evaluations of Difficulties Implementing Training at District (Scale 3: 5 categories)

The difficulties expressed through this dimension portrayed time (three instances) and lack of administrative support (three instances) as the major concerns. Two people expressed no problems at all, but they have not been as active as the others. The only two difficulties mentioned were getting others to accept new ideas and having no decision-making power at the district level.

Coping with Implementation Difficulties (Scale 4: 5 categories)

The trainees felt they were beginning to cope with implementation difficulties by: developing a district-wide plan, working with individual teachers on a one-to-one level, getting the MTTI orchestrator to meet with administrators, and learning to cope with negative attitudes toward bilingual education. The only need that was not being addressed was in-service on time management.

Perceptions of the Project (Scale 5: 10 categories)

There were 51 positive responses about their perception of the project. These were one-word items, such as "wonderful" to sentences such as, "It's given us so much, there's so many positives I can't concentrate on negatives."

The responses were collapsed into ten categories: knowledge at the cutting edge, skills, self-confidence, visibility (for self, for program), credibility (for self, for program), sharing/networking, continuity, comprehensive, catalyst for change, and status.

Perceptions of Self (Scale 6: 3 major categories)

Trainees felt they had accomplished three basic goals for themselves: professional growth, personal growth, and school district program growth. Within each of these categories there were the following subcategories:

Professional Growth	Personal Growth	School District Program Growth
knowledge	Improved:	change
skill--collaborative	self-confidence	comprehensiveness
skill--content	self-concept	continuity
skill--presentor	self-esteem	credibility
visibility	attitude toward	visibility
networking	bilingual education	institutionalized
new position	attitude in general	bilingual education
resourceful	character	helps others grow
	status	leadership
	personal goals	better communication
	self-expectancies	reached children

Among the open-ended questions, only one asked the trainees to rate, on a scale from one to ten, the support of their principal, central administrators, school staff, and MTTI peers. Figure 3 tabulates the responses.

Figure 3

TRAINEE RATINGS OF SUPPORT

Support from:	1	2	3	4	5	6	7	8	X
Principal	7	10	9	8	4	10	9	9	8.3
Central Adminstration	7	8	9	9	4	N/A	9	N/A	7.4
School Staff	8	8	5	7	9	N/A	9	9	7.9
MTTI Peers	10	8	10	10	8	10	9	10	9.4

Observations

Informal observations were also conducted to complement the interview and checklist information. Two observations per trainee as well as informal talks with their principals and supervisors assisted in validating and complementing the trainee's information.

Analysis of the Innovation Configurations Checklist

The frequency of each variation within each of the seven components of the checklist was tallied. The overall emphasis of the MTTI trainees was on providing: (1) a basic theoretical framework for bilingual education (Di Pietro, Shuy, Cummins), (2) methods for reading (Treadway, Hoffman, Martin, Stauffer, Cornejo) and oral language development (Krashen, Di Pietro, Pusey), (3) language assessment (Oller), (4) writing (Staton), (5) materials for presentations and classroom use, and (6) outside consultant work. The trainer of trainers techniques they felt were more frequently tapped to construct their presentations were Montemayor's Workshop on Workshops, George's Visuals for the Classroom, Calderõn's Flexibility (Matching the Training Intervention to the Trainee), and Nava's Graphic Arts Techniques (MTTI Training Sessions in Riverside/San Bernardino counties, 1980-1982).

Figure 4 presents the ratings from the theories and methods being used as training components. It is a tabulation of aspects of the training that were actually implemented at the district and in neighboring districts. A composite of materials developed by the trainees is listed in Figure 5 by topics.

Individual accomplishments, as well as a district profile, are presented in Figure 6. The criteria at the bottom of the figure indicate an "ideal" level of implementation; "acceptable" is the cut-off line decided jointly by the trainees and the MTTI orchestrator. Anything below that is "unacceptable."

Figure 4

INSTANCES OF THEORIES AND METHODS
PRESENTED BY EIGHT MITTI TRAINERS

		In District	Out of District	Total
Theory by:	Shuy	3	6	9
	Di Pietro	2	6	8
	Cummins[1]	4	1	5
	Oller	0	2	2
	Krashen[2]	1	0	1
Method by:	Treadway	7	1	8
	Di Pietro	2	6	8
	Hoffman	6	0	6
	Cornejo	2	2	4
	Pusey	3	0	3
	Staton	2	0	2
	Stauffer[3]	1	0	1
	Martin[4]	0	0	0

The Innovation Configuration process was also instrumental in pinpointing variations (or reasons for variations) such as the following:

[1]Cummins--He came personally to provide in-service the second summer.

[2]Krashen--Most recent MITTI presentation, too late for district summer in-service.

[3]Stauffer--He came personally to provide in-service.

[4]Martin--Did not provide "a model" but dozens of techniques which trainers "are probably integrating into their reading presentations but are not sure."

Figure 5

DETAILED DISTRIBUTION OF EIGHT MTTI TRAINEES' INNOVATION IMPLEMENTATION

Indicate Topic(s)	Classroom Use	Presentation of Theory	Presentation of Method/Strategy	MTTI Manuals	Other (Indicate)
Delivery System (Calderón) (M)[1]		1	1	1	
Notional-Functional Syllabus (Finnochiaro, 1979)	1				
Journals (Staton) (D)[2]	2	2	2		
Reader's Theatre (Hoffman) (D)	1	1	1		
Reading in L_1 (Cornejo)	1	1	1		
Cloze Test (Oller) (D)	1				
Classroom Visuals (George)	1	1			
Spanish Reading Guide (D) (Cornejo)		1			
Reading (Martin) (M)		1		2	
L_1-L_2 Development (M) (Cummins, Krashen)		1	1	2	
Reading in Content Areas (Cornejo, Stauffer)	1	1			
Journal Writing (Staton)			2		
Writing Techniques (Staton)	1	2	2		
Placement Test (Oller)	1	1	1		
Bibliographies (M)				1	
Communicative Competencies Grid (Calderón)	2	2	2	2	
Language Experience Approach (Stauffer, 1970)	2				

[1](M) indicates that these materials become part of the MTTI Trainer's Manual being used by all school districts involved in MTTI.

[2](D) indicates that materials were developed for district-wide use.

Figure 6

PROGRAM IMPLEMENTATION PROFILE
(October 1981)

Group I (two years in the program)

Trainer	Presented Theory	Presented Method	For District's	By Level of Training	During	Type of Evaluation	Developed Presentation Materials on
1	Cummins Shuy Di Pietro	Treadway Hoffman Di Pietro	15 bilingual teachers 5 nonbilingual teachers 5 bilingual aides	theory demonstration modeling feedback	two ten-day summer sessions	Evaluation Forms Observations Journals (Staton) Interviews	Oral Language Development Grid Notional Functional Syllabus (Finnochiaro, 1979) Reader's Theatre (Hoffman) Delivery System (Calderón) Journals (Staton) MTTI Manual
2	Cummins Shuy Di Pietro	Treadway Hoffman Di Pietro Pusey	Same as above	Same as above	Same as above	Evaluation Forms Observations Journals (Staton) Interviews Short Paragraphs	Cloze Test (Oller) Oral Language Development Grid Journals (Staton) Language Experience Approach (Stauffer, 1970) Bibliographies MTTI Manual
3	Cummins	Treadway Hoffman Cornejo Visuals for ESL	Same as above	Same as above	Same as above	Evaluation Forms Observations Journals (Staton) Interviews Letters	Classroom Visuals (George) Cloze Test (Oller) Spanish Reading Guide (Cornejo) L1 and L2 Reading (Cummins, Krashen) Reading in Content Areas (Cornejo, Stauffer) Journals (Staton) Writing (Pusey)
Criteria for Implementation:							
IDEAL	5 theories	8 methods	40 people	4 levels	20 days	5 sources	5 sources
ACCEPTABLE	3 theories	4 methods	25 people	2 levels	10 days	3 sources	3 sources

Figure 6 (continued)

Group I (two years in the program)

Trainer	Presented Theory	Presented Method	For District's	By Level of Training	During	Type of Evaluation	Developed Presentation Materials on
4	Cummins Shuy	Treadway	15 bilingual teachers 15 nonbilingual teachers 5 bilingual aides 30 migrant bilingual aides	theory demonstration modeling	two ten-day summer sessions one-day workshops one-hour workshops	Evaluation Forms Observations Journals (Staton) Interviews	Reader's Theatre (Hoffman) Journals (Staton)
5		Staton Treadway Hoffman Pusey	15 bilingual teachers 5 nonbilingual teachers 5 bilingual aides	Same as above	Same as above	Evaluation Forms Observations Journals (Staton) Interviews	Journals (Staton)
6		Cornejo Treadway Hoffman	Same as above	Same as above	Same as above	Evaluation Forms Observations Journals (Staton) Interviews	Reader's Theatre (Hoffman) Reading in L_1 (Cornejo) Cloze Test (Oller) Journals (Staton)
Criteria for Implementation:							
IDEAL	5 theories	8 methods	40 people	4 levels	20 days	5 sources	5 sources
ACCEPTABLE	3 theories	4 methods	25 people	2 levels	10 days	3 sources	3 sources

Figure 6 (continued)

Group II (one year in the program)

Trainer	Presented Theory	Presented Method	For District's	By Level of Training	During	Type of Evaluation	Developed Presentation Materials on
7	Krashen		8 nonbilingual teachers	theory	two-hour inservice	Evaluation Forms Observations Interviews	
8		Cummins Stauffer Treadway	2 teachers	one-to-one coaching	teacher-preparation periods	Evaluation Forms Observations Interviews	
Criteria for Implementation:							
IDEAL	5 theories	8 methods	40 people	4 levels	20 days	5 sources	5 sources
ACCEPTABLE	3 theories	4 methods	25 people	2 levels	10 days	3 sources	3 sources

The Innovation Configurations for each individual trainee will be used as a point of departure for their own coaching component. The total district profile will be used to compare at the macro level their Phase two performance (evaluation of the trainees as trainers at their school districts) with Phase three performance (evaluation of the training transfer as demonstrated at the classroom level and its impact on student achievement). At the micro level, it will serve to determine how much vertical transfer has been achieved.

UNRESOLVED PROBLEMS, CONCLUSIONS, RECOMMENDATIONS, AND FOLLOW-UP

Unresolved Problems

Several unresolved problems relating to the analysis and interpretation of information on the use of Innovation Configurations need to be pointed out before conclusions can be drawn.

Reliability of checklist data. To date, no formal study has been conducted on the reliability between checklist data obtained through interviewing or observation. The only source for data collection was the interviewer's and observer's experience and judgment.

Relationship of information on checklist to the rest of the learning context. With regard to the relationship of components and configurations to outcomes, the sole purpose of the Innovation Configurations approach was to identify and describe an innovation's various operational forms as implemented by users. No assessment was attempted on what effect, if any, the innovation had on student learning or any other desired outcome.

Size of the innovation. Conceivers of the Innovation Configurations concept warn that the distinction must be made between a single innovation and a bundle of innovations (Hall and Loucks, 1981). However, questions still to be answered are: Should a configuration be developed for each element of the

bundle? Should a macro configuration be developed for the entire set? and How are phased components such as MTTI handled?

Conclusions

The Milieu. A contradictory item that would necessitate more in-depth analysis is the administrative support variable. Trainees gave an 8.3 rating to principals and a 7.4 to central administrators, which is neither high nor discouraging. Compared to neighboring districts, this rating would be excellent. Compared to other MTTI districts, it would be average; in two cases, it would be above average.

When asked about implementation problems, three trainees mentioned "lack of support from administration," another, "not being included by the administration in key decision-making processes that concern bilingual students." Two trainees mentioned no problems. However, one of these respondents had not yet attempted any district or school staff training beyond a one-to-one basis. Five trainees felt that the visits and explanations to district administrators by the MTTI orchestrator opened communication and promoted support and interest for their implementation efforts. A certain "Hawthorne effect" is now sifting up into the administrator level as they, too, are participating more actively in the implementation efforts. The "Hawthorne effect" in this instance refers to "the involvement and participation of the persons involved in the management of their own job activities" as defined by Sashkin (1982, p. 20).

The administrative climate at this point is viable for the interaction and exchange within and among schools where trainees are to begin their coaching. One obstacle is the 7.9 level of support or 2.1 level of nonsupport they are feeling from their fellow teachers at the schools. Their presently identified

strategies are to "develop a thick skin"--for one trainee--but mostly to work on a one-to-one basis and to become better trainers and resources.

The Self. All in all, the eight trainees feel good about themselves, their role as teacher trainers, what they have gone through in MTTI, and are about to undergo as long-range research subjects. They enjoy the visibility and status they have attained through MTTI. However, only three trainees have done the bulk of outside consultant work, conference presentations, and materials development. It was interesting, however, that when the District Profile was presented to them, six felt they needed to become more active immediately.

There are several indications that trainees are ready for coaching. First, they rate themselves a 9.4 level of support. Second, they find that working in committees, joint projects, and sharing constitute better time management and quality performance.

Their training efforts. To what extent are innovation adopters using an innovation and how? The District Profile gives a reasonable picture of what the adopters are using, the level of training, and the instances of performance. Observations of their classroom teaching, their training events, MTTI file of video and audio tapes of practice runs, as well as pertinent materials developed, reveal how the innovation is used and what they do with it.

The first group strongly manifests internalization and application of the theoretical underpinnings for bilingual education as well as teaching strategies for oral language development, reading, and writing. The second group also has internalized and espoused the theories of bilingual education and its methodology, particularly since both trainees are not bilingual but choose to integrate these theories into ESL approaches.

Recommendations

Trainers need to do more long-range follow-up of their trainees. Twenty-five bilingual teachers and aides have received two summer, ten-day training sessions from the group of eight trainees. The first summer 12 persons responded to a follow-up questionnaire about their classroom implementation practices. They preferred Journals (Staton) and Reader's Theatre (Hoffman). Journal writing and Reader's Theatre can be used as systematic comprehensive programs but also as sporadic, isolated teaching techniques. Therefore, follow-up procedures or coaching of classroom teachers should be established to ensure proper use. After the second summer's training, the 25 persons wrote contracts indicating what they would use in the classroom this year. They preferred Journals (Staton), Language Experience Approach (Stauffer, 1970), and the Strategic Interaction Model (Di Pietro). Again, follow-up on these commitments will ensure teacher success in classroom implementation.

Trainees need more in-depth training. Time restrictions for both trainees and school or district personnel may restrict the number of group training events for the school year. However, if trainees proceed to provide theory, demonstration, modeling, and feedback at group sessions, the coaching element can provide more depth to their subject matter on an individual basis.

Trainees need to refine their L_1 and L_2 teaching strategies. Although each trainer practices a strategy before preaching it, fine-tuning their skills would make them feel more confident not only as trainers but also as teachers' classroom coaches. Future training sessions on various models of teaching is certain to fine-tune their teaching and training skills.

Trainees need to provide their fellow teachers with more and better strategies for focusing and developing cognitive growth in LEP students.

Most L_1 and L_2 techniques have focused on linguistic development of LEP students. Therefore, L_1, L_2, and regular classroom teachers need to acquire strategies to merge the linguistic and cognitive as well as affective domains. It is this merging of strategies that brought about the conceptualization of the MTTI training philosophy. As the training shifts from language strategies to information processing models (Joyce and Weil, 1978a), social models (Joyce and Weil, 1978c), and personal models of teaching (Joyce and Weil, 1978b), perhaps a more comprehensive set of tools can be devised for teachers of LEP students.

Follow-up

To see how integrating teaching strategies works, a coaching component will be devised and implemented. This coaching will consist of a multilevel program: Level 1--Joyce and Showers coach the MTTI orchestrator and trainees; Level 2--MTTI orchestrator coaches trainees; Level 3--Project director coaches trainees from district level; Level 4--Trainees coach each other.

First the eight trainees' skills as well as their level of conceptual development (Hunt **et al.**, 1978) will be measured. Subsequently, their level of use and process of transfer will be observed and categorized. Along with identifying a process for integrating linguistic and cognitive strategies, the coaching component might begin to shed some light on the transfer of training process.

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Appendix 1

INNOVATION CONFIGURATIONS CHECKLIST
(First Draft)

Name: _____

What training aspects have you done from the following?

	Desired	Acceptable	Unacceptable
1. Theory/research (presentation of)			
	Cummins Krashen Shuy Di Pietro Canale and Swain (1980)	at least: Cummins and Krashen	Krashen
2. Methods/techniques (teaching strategies)			
	Functional-Notional (Pusey) Strategic Interaction Model (Di Pietro) Journal Writing (Staton) Learning Experience Approach (Stauffer, 1970)	at least two	one
3. Materials development:			
	Functional-Notional Strategic Interaction Model Journal Writing Language Experience Approach	at least two adequately prepared for year-long use.	one prepared for year-long use
4. Training levels (depth of training events)			
	Theory Modeling Practice Feedback Coaching	Theory Modeling Practice Feedback	Theory Modeling

Appendix 1 (continued)

Desired	Acceptable	Unacceptable
5. Diagnosis (of own training) by using		
evaluation forms interviews observations other	evaluation forms observations	evaluation forms
6. Recordkeeping devices (of own training and development)		
evaluation forms schedules time series journal critical incidence list other	at least three	one
7. In-service groups (you have trained)		
bilingual teachers bilingual aides principals central administrators nonbilingual teachers and aides board members	at least three	one
8. Scheduling (you have actually performed)		
1 day + 2 weeks summer 1 day/month + 2 weeks 1 day/3 months + 2 weeks summer 1 day/6 months + 2 weeks summer Other	1 day/2 months + 1 week summer	1 day/6 months + 1 week summer

Appendix 2

INNOVATION CONFIGURATIONS CHECKLIST

Name: _____

Group 1: _____ Group 2: _____

From MITI, what are you doing/using from the following?
(Please use ✓ or write down information where needed.)

1. What do you use in the classroom? At least:

	Once a week	Once a month	Hardly ever
Reading L_1 Strategies (Cornejo)	_____	_____	_____
Reader's Theatre (Hoffman)	_____	_____	_____
Reading (Treadway)	_____	_____	_____
Reading (Martin)	_____	_____	_____
Reading (Stauffer) (Language Experience Approach)	_____	_____	_____
Strategic Interaction Model (Di Pietro)	_____	_____	_____
Notional-Functional Syllabus (Pusey)	_____	_____	_____
Writing (Staton)	_____	_____	_____

2. What theories have you trained others on?

		Check Trainees	Number of Trainees	Joyce Level of Training	Duration of Training
A. Cummins	Bilingual Teachers	___	_____	_____	_____
	Bilingual Aides	___	_____	_____	_____
	Central Administrators	___	_____	_____	_____
	Principals	___	_____	_____	_____
	Non-Bilingual Teachers	___	_____	_____	_____
	Non-Bilingual Aides	___	_____	_____	_____
	Other	___	_____	_____	_____

Appendix 2 (continued)

	Check Trainees	Number of Trainees	Joyce Level of Training	Duration of Training
B. Krashen	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
C. Shuy	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
D. Oller	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____

Appendix 2 (continued)

	Check Trainees	Number of Trainees	Joyce Level of Training	Duration of Training
E. Di Pietro	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____

3. What methods/strategies have you trained others on?

A. Reading in L_1 (Cornejo)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
B. Reader's Theatre (Hoffman)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____

Appendix 2 (continued)

	Check Trainees	Number of Trainers	Joyce Level of Training	Duration of Training
C. Reading (Treadway)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
D. Reading (Martin)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
E. Reading (Stauffer)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____

Appendix 2 (continued)

	Check Trainees	Number of Trainers	Joyce Level of Training	Duration of Training
F. Strategic Interaction Model (Di Pietro)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
G. Notional-Functional Syllabus (Pusey)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____
E. Journals (Staton)	Bilingual Teachers ___	_____	_____	_____
	Bilingual Aides ___	_____	_____	_____
	Central Administrators ___	_____	_____	_____
	Principals ___	_____	_____	_____
	Non-Bilingual Teachers ___	_____	_____	_____
	Non-Bilingual Aides ___	_____	_____	_____
	Other ___	_____	_____	_____

Appendix 2 (continued)

4. Have you applied the following to your training or teaching style?

	Most of it	Some things	Hardly any
A. Public Relations (Messer)	_____	_____	_____
B. Graphic Arts (Nava)	_____	_____	_____
C. Classroom Visuals (George)	_____	_____	_____
D. Visual Production (Langstaff)	_____	_____	_____
E. Motivation (Medrano)	_____	_____	_____
F. Leadership (Belker)	_____	_____	_____
G. Models of Teaching (Murphy)	_____	_____	_____
H. Evaluation (Andersen)	_____	_____	_____
I. Flexibility (Calderón)	_____	_____	_____
J. Training (Montemayor)	_____	_____	_____

5. Have you developed materials? (Please check ✓ where applicable.)

Indicate Topic(s)	Classroom Use	Presentation of Theory	Presentation of Method/Strategy	MTTI Manuals	Other (Indicate)

6. Have you done consultant work that included MITI content or process?

Topic	Whom	When	Where	Duration	How do you feel about your performance? Excellent	Good	Fair	Poor

7. Have you presented at a conference?

Topic	Conference	When	Where	How do you feel about your performance? Excellent	Good	Fair	Poor

Margarita Espino Calderón is currently a Coordinator for the Bilingual Education Service Center, Institute for Cultural Pluralism at San Diego State University. She received a BA and an MA from the University of Texas at El Paso and is in a PhD program jointly with Claremont Graduate School/San Diego State University.

Some of Ms. Calderón's publications include **Communicative Competence in Bilingual Education--Theory and Research** with James Cummins, **Assessing Communicative Competence** with James Cummins and M. Pusey, and **Management System--Handbook for Bilingual Education Teacher Training Materials** with J. Belker.

In addition to her busy schedule, Ms. Calderón is a member of the American Management Association, American Educational Research Association, Association for Supervision and Curriculum Development, and the Executive Women International. She is also very active in conference and training events and works as a consultant.